



220
AT 12833
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

WILLIAM L. BLACK
STEVEN J. MARIAN

Serial No.: 10/679,180

Filed: October 3, 2003

For: METHOD AND APPARATUS FOR
DETERMINING A POSITION OF A
LOCATION DEPENDENT DEVICE

Examiner: A.Gilman

Group Art Unit: 2833

Att'y Docket: 2063.005800

Customer No. 023720

APPEAL BRIEF

CERTIFICATE OF MAILING
37 C.F.R. 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date below:

10.14.05

Date

Kathy Mares

Signature

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant hereby submits this Appeal Brief to the Board of Patent Appeals and Interferences in response to the final Office Action dated May 20, 2005. A Notice of Appeal was filed on August 17, 2005 and so this Appeal Brief is believed to be timely filed.

It is believed that \$500.00 is due. A check is attached. However, should the check be inadvertently omitted or if fees are insufficient, the Commissioner is authorized to deduct the fee for filing this Appeal Brief (\$500) from **Williams, Morgan & Amerson's P.C. Deposit Account 50-0786/2063.005800.**

I. REAL PARTY IN INTEREST

The present application is owned by Lockheed Martin, Inc. The assignment of the present application to Lockheed Martin, Inc., is recorded at Reel 014583, Frame 0076.

II. RELATED APPEALS AND INTERFERENCES

Applicant is not aware of any related appeals and/or interferences that might affect the outcome of this proceeding.

III. STATUS OF THE CLAIMS

Claims 1-21 are pending in the application. Claims 1 and 8-11 stand rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Rafert (U.S. Patent No. 6,497,659). Claims 1 and 13 stand rejected under 35 U.S.C. 102(b) as being anticipated by Johnson (U.S. Patent No. 5,435,503). Claims 1 and 13 stand rejected under 35 U.S.C. 102(b) as being anticipated by Takagi (U.S. Patent No. 6,441,748). Claims 1-7 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Takagi (U.S. Patent No. 6,441,748) in view of Arratia (U.S. Patent No. 5,659,283). Claims 13-15 and 17 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Flick (U.S. Patent No. 6,771,167) in view of Arratia. Claims 13, 16, and 18-21 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Flick in view of Rafert. Claim 13 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Flick in view of Chen (U.S. Patent No. 6,755,681).

IV. STATUS OF AMENDMENTS

There were no amendments after the final rejections.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 sets forth an interconnect for a location dependent device. The interconnect includes at least one bus adapted to provide at least one bus signal to the location dependent device and a plurality of electrical contacts external to the location dependent device. The electrical contacts are capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed.

Figures 3A-C illustrate three alternative embodiments of the interconnect set forth in claim 1. Although the present invention is not so limited, each of the alternative embodiments illustrated in Figures 3A-C include three leads 300 coupled to three electrical contacts 301. The three leads 300 and the three electrical contacts 301 may provide bus signals to the attitude control motor. For example, the three leads 300 and the three electrical contacts 301 may provide a control signal, a command signal, and a power signal to the attitude control motor when the attitude control motor is installed. The interconnect circuit also includes a first electrical contact 305, 330 that may be coupled to one or more second electrical contacts 310(1-6), 335. When installed, the attitude control motor may use the electrical contacts 305, 310(1-6), 330, 335 to determine the physical location of the attitude control motor. See Patent Application, page 9, line 1 – page 11, line 16.

Independent claim 13 sets forth a system for determining a position of at least one location dependent device deployed on a vehicle. The system includes at least one bus capable of transmitting at least one bus signal and a plurality of interconnects. The interconnects are each capable of receiving the bus signal from the bus and providing the bus signals to at least one location dependent device associated with the interconnect. The system also includes a plurality

of electrical contacts. At least two of the plurality of electrical contacts are associated with each of the interconnects and are capable of providing a signal indicative of a physical location of the interconnect to the location dependent device associated with the interconnect when the location dependent device is installed.

Figure 2 shows one embodiment of the system set forth in claim 13. The system includes a bus 220 that may be coupled to at least one electrical contact 215 formed on each of the flexible interconnects 210. For example, the bus 220 may be formed of wires, leads, traces, ribbon tape, or any suitable flexible substrate known in the printed circuit art that may be deployed proximate the flexible substrate 200 and may permit the bus 220 to be coupled to the at least one electrical contact 215. As discussed above, the bus 220 may provide one or more bus signals to the at least one electrical contact 215. When installed, the attitude control motors may contact the at least one electrical contact 215 and receive bus signals from the bus 220. The flexible interconnects 210 include a circuit 225 capable of providing a signal indicative of a physical location of the attitude control motor, when the attitude control motor is installed. See Patent Application, page 8, line 12 – page 9, line 1.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Appellant respectfully requests that the Board review and overturn the seven rejections present in this case. The following issues are presented on appeal in this case:

- (A) Whether claims 1 and 8-11 are anticipated by Rafert;
- (B) Whether claims 1 and 13 are anticipated by Johnson;
- (C) Whether claims 1 and 13 are anticipated by Takagi;
- (D) Whether claims 1-7 are obvious over Takagi in view of Arratia;

- (E) Whether claims 13-15 are obvious over Flick in view of Arratia;
- (F) Whether claims 13, 16, and 18-21 are obvious over Flick in view of Rafert; and
- (G) Whether claim 13 is obvious over Flick in view of Chen.

VII. ARGUMENT

A. Legal Standards

An anticipating reference by definition must disclose every limitation of the rejected claim in the same relationship to one another as set forth in the claim. *In re Bond*, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990).

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). Second, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. That is, there must be something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). In fact, the absence of a suggestion to combine is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573 (Fed. Cir. 1997). The mere fact that the prior art can be combined or modified does not make the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01. Third, there must be a reasonable expectation of success.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. § 2142. A recent Federal Circuit case emphasizes that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 143 (Fed. Cir. 2002). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35. Moreover, it is the claimed invention, as a whole, that must be considered for purposes of determining obviousness. A mere selection of various bits and pieces of the claimed invention from various sources of prior art does not render a claimed invention obvious, unless there is a suggestion or motivation in the prior art for the claimed invention, when considered as a whole.

It is by now well established that teaching away by the prior art constitutes *prima facie* evidence that the claimed invention is not obvious. *See, inter alia, In re Fine*, 5 U.S.P.Q.2d (BNA) 1596, 1599 (Fed. Cir. 1988); *In re Nielson*, 2 U.S.P.Q.2d (BNA) 1525, 1528 (Fed. Cir. 1987); *In re Hedges*, 228 U.S.P.Q. (BNA) 685, 687 (Fed. Cir. 1986).

B. Claims 1 and 8-11 are not anticipated by Rafert.

Rafert describes a system for identifying a cable transmitting a signal from a sensor to an electronic instrument. For example, a sensor is connected to a connector 20 using a cable 12. The connector 20 includes a capacitor 22 (or other electrical circuit), which may be identified by a microprocessor 30. See Rafert, col. 4, ll. 37-67 and Figure 2. However, the capacitor 22 (or other electrical circuit) in the connector 20 does not provide a signal indicative of a physical

location of the location dependent device when the location dependent device is installed. For example, the capacitor 22 (or other electrical circuit) indicates that the sensor associated with the capacitor 22 (or other electrical circuit) is connected, but it provides no indication of the *physical* location of the sensor.

In response to the above arguments, the Examiner alleges in the Final Office Action that the specification does not indicate specific features of the contacts that make them capable of providing the signal indicative of the physical location of the location dependent device. Applicants respectfully disagree and note that the specification describes several embodiments of interconnects that are capable of providing a signal indicative of a *physical* location of a location dependent device when the location dependent device is installed. See, *e.g.*, Figures 3A, 3B, and 3C, and related discussion in the specification. Furthermore, Applicants respectfully submit that whether or not the specification indicates specific features of the contacts that make them capable of providing the signal indicative of the physical location of the location dependent device is immaterial to determining whether or not Rafert anticipates claims 1 and 8-11.

The Examiner also notes that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Applicants respectfully submit that this principle is not applicable in the present case because the prior art apparatus does not satisfy the structural limitations set forth in claim 1. In particular, as discussed above, the connector 20 described by Rafert is not configured to provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. As discussed above and in the specification, the structure of the interconnect enables the interconnect to provide a

signal indicative of a *physical* location of a location dependent device when the location dependent device is installed.

For at least this aforementioned reasons, Applicants respectfully submit that the present invention is not anticipated by Rafert and request that the Examiner's rejections of claims 1 and 8-12 under 35 U.S.C. 102(e) be REVERSED.

C. Claims 1 and 13 are not anticipated by Johnson.

Johnson describes a tactical missile including a guidance processing unit 21 that may be coupled to an inertial measurement unit 22, an attitude control system 23, an aerodynamic maneuvering system 24, and a seeker 27. See Johnson, col. 9, ll. 28-56 and Figure 1. The guidance processing unit 21 also includes a multiplex bus (MUX), which is used to transmit signals related to guiding the tactical missile. See Johnson, col. 10, ll. 49-50 and Figure 3. However, contrary to the Examiner's unsupported allegation, Johnson is completely silent with regard to providing a signal indicative of a physical location of a location dependent device when the location dependent device is installed, as set forth in claims 1 and 13.

For at least this aforementioned reason, Applicants respectfully submit that the present invention is not anticipated by Johnson and request that the Examiner's rejections of claims 1 and 13 under 35 U.S.C. 102(b) be REVERSED.

D. Claims 1 and 13 are not anticipated by Takagi.

Takagi describes a container 22 having connectors 14, a power bus 15, and a signal bus 16 to enable connection of sensor units 1 to external units. See Takagi, col. 2, line 35 – col. 3, line 5 and col. 4, ll. 27-32, as well as Figures 3-4 and 7. A differential global positioning system

unit 20 may be disposed in a slot 17 of the container 22. The differential GPS unit 20 may provide wireless transmission of global positioning data and signals related to road surface conditions as sensed by the sensor units 1. The Examiner then alleges that unspecified contacts within the differential GPS unit 20 are capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed, as set forth in claims 1 and 13. Applicants respectfully disagree and submit that the Examiner's allegations are without record support. To the contrary, Takagi is completely silent with regard to any contacts present within the differential GPS units 20 and fails to teach or suggest a plurality of contacts capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed, as set forth in claims 1 and 13.

For at least this aforementioned reason, Applicants respectfully submit that the present invention is not anticipated by Takagi and request that the Examiner's rejections of claims 1 and 13 under 35 U.S.C. 102(b) be REVERSED.

E. Claims 1-7 are not obvious over Takagi in view of Arratia.

Takagi describes a sensor unit 1 that is disposed under the surface of road 12. The sensor unit 1 includes a container 11 having connectors 14, a power bus 15, and a signal bus 16 to enable connection of the sensor units 1 to external units. See Takagi, col. 2, line 35 – col. 3, line 5 and Figures 3-4. However, as admitted by the Examiner, Takagi fails to teach or suggest a plurality of electrical contacts external to the location dependent device that can provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. Arratia describes a plurality of illuminators 28 for providing a visual indication of current in particular ones of fuses 16 that have been interrupted by opening of links

26. The illuminators 28 are preferably physically located in association with the fuses 16. See Arratia, col. 3, ll. 5-36.

The Examiner alleges that it would have been obvious to combine the teachings of these two references to verify the status of a connection between a sensor unit 1 and a connector 14 using an illuminator 28. Applicants respectfully disagree. Arratia teaches that the illuminators 28 are used to provide a visual indication of one or more blown fuses and provides no suggestion or motivation for including the illuminators 28 in a device such as the container 11 to indicate whether or not one or more sensors 1 is connected.

Takagi also fails to provide any suggestion or motivation for incorporating any visual identification device for providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed. To the contrary, Takagi teaches away from incorporating the illuminators 28 into the container 11. In particular, Takagi teaches that the containers 11 are to be sealed and deployed under the road 12. Illuminators 28 physically located in the containers 11 would also be sealed in the containers 11 and deployed under the road 12. Thus, the illuminators 28 would be invisible and not able to provide a visual indication unless the container 11 was uncovered and opened, in which case illuminators 28 would not be needed to determine whether the sensors 1 were connected. As discussed above, teaching away by the prior art constitutes *prima facie* evidence that the claimed invention is not obvious.

In response to the above arguments, the Examiner states in the Final Office Action that the structural features recited in the prior art are common devices for transforming or detecting signals irrespective of an area of implementation. However, Applicants respectfully submit that whether or not this is the case is immaterial to establishing whether the prior art provides some

suggestion or motivation to combine the references to arrive at the claimed invention. For at least the reasons discussed above, Applicants maintain that the prior art of record fails to provide any suggestion or motivation to combine the references to arrive at the claimed invention. To the contrary, Takagi teaches away from the Examiner's proposed combination and/or modifications to the prior art.

For at least the aforementioned reasons, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Takagi and Arratia. Applicants request that the Examiner's rejection of claims 1-7 under 35 U.S.C. 103(a) be REVERSED.

F. Claims 13-15 are not obvious over Flick in view of Arratia.

Flick describes one or more vehicle sensors 23 that are connected to a data communications bus 12. See Flick, col. 5, ll. 41-55. However, as admitted by the Examiner on page 4 of the Final Office Action, Flick fails to teach or suggest a plurality of electrical contacts external to the location dependent device that can provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. As discussed above, Arratia describes a plurality of illuminators 28 for providing a visual indication of current in particular ones of fuses 16 that have been interrupted by opening of links 26. See Arratia, col. 3, ll. 5-36.

The Examiner alleges that it would have been obvious to combine the teachings of Flick and Arratia to arrive at the invention set forth in independent claim 13 and claims 14-15 and 17 depending therefrom. Applicants respectfully disagree. Flick is not concerned with whether or not the vehicle sensors 23 are connected to the data communication bus 12, at least in part

because the techniques described in Flick assume that the vehicle sensors 23 have been correctly connected to the data communication bus 12. Accordingly, Flick does not suggest that there is any need for any kind of indication that the vehicle sensors 23 are connected to the data communication bus 12. Moreover, even if it was desirable to provide some indication that the vehicle sensors 23 are connected to the data communication bus 12, Flick does not provide any suggestion or motivation for that a visual identification device, such as the illuminators 28 described by Arratia, would be a potential and/or desirable solution or that the visual identification device should indicate a physical location of the vehicle sensors 23.

Arratia also fails to provide any suggestion or motivation for the Examiner's proposed combination and modification of the prior art of record. As discussed above, Arratia teaches that the illuminators 28 are used to provide a visual indication of one or more blown fuses, *i.e.*, the illuminators 28 provide an indication of operability of the fuses, not the physical location of the fuses. Arratia therefore provides no suggestion or motivation for including the illuminators 28 in a device such as the vehicle alerting system 10 described by Flick to indicate whether or not one or more vehicle sensors 23 are connected to the data communications bus 12.

In response to the above arguments, the Examiner alleges that the specification does not indicate specific features of the contacts that make them capable of providing the signal indicative of the physical location of the location dependent device. Applicants respectfully disagree and note that the specification describes several embodiments of interconnects that are capable of providing a signal indicative of a physical location of a location dependent device when the location dependent device is installed. See, *e.g.*, Figures 3A, 3B, and 3C, and related discussion in the specification. Furthermore, Applicants respectfully submit that whether or not the specification indicates specific features of the contacts that make them capable of providing

the signal indicative of the physical location of the location dependent device is immaterial to determining whether or not claims 13-15 are obvious over Flick in view of Arratia.

The Examiner also notes that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Applicants respectfully submit that this principle is not applicable in the present case because the prior art apparatus does not satisfy the structural limitations set forth in claim 1. In particular, as discussed above, the illuminators 28 described by Arratia are not configured to provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. Moreover, as discussed above and in the specification, the structure of the interconnect enables the interconnect to provide a signal indicative of a *physical* location of a location dependent device when the location dependent device is installed.

The Examiner further states that the structural features recited in the prior art are common devices for transforming or detecting signals irrespective of an area of implementation. However, Applicants respectfully submit that whether or not this is the case is not material to establishing whether the prior art provides some suggestion or motivation to combine the references to arrive at the claimed invention. For at least the reasons discussed above, Applicants maintained that the prior art of record fails to provide any suggestion or motivation to combine the references to arrive at the claimed invention.

For at least the aforementioned reasons, Applicants respectfully submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Flick in view of Arratia. Applicants request that the Examiner's rejections of claims 13-15 and 17 under 35 U.S.C. 103(a) be REVERSED.

G. Claims 13, 16, and 18-21 are not obvious over Flick in view of Rafert.

As discussed above, Flick describes one or more vehicle sensors 23 that are connected to a data communications bus 12. However, as admitted by the Examiner on page 4 of the Final Office Action, Flick fails to teach or suggest a plurality of electrical contacts external to the location dependent device that can provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. As discussed above, Rafert describes a system for identifying a cable transmitting a signal from a sensor to an electronic instrument. A connector 20 includes a capacitor 22 (or other electrical circuit), which may be identified by the microprocessor 30. See Rafert, col. 4, ll. 37-67 and Figure 2. However, as discussed above, the capacitor 22 (or other electrical circuit) in the connector 20 does not provide a signal indicative of a physical location of the location dependent device when the location dependent device is installed. Thus, Applicants respectfully submit that Flick and Rafert fail to teach all the limitations of independent claim 13 and claims 16 and 18-21 depending therefrom.

For at least this reason, Applicants submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Flick in view of Rafert and request that the Examiner's rejections of claims 13, 16, and 18-21 under 35 U.S.C. 103(a) be REVERSED.

H. Claim 13 is not obvious over Flick in view of Chen.

As discussed above, Flick describes one or more vehicle sensors 23 that are connected to a data communications bus 12 but, as admitted by the Examiner, Flick fails to teach or suggest a plurality of electrical contacts external to the location dependent device that can provide a signal

indicative of a physical location of the location dependent device when the location dependent device is installed. Chen describes providing a detecting signal, which may be recognized by a contacting flexible piece 422 so that power may be successfully output to a socket 4 electrically conducting an electronic device. See Chen, col. 6, ll. 39-51, and Figure 2. However, the detecting signal is not a signal indicative of a physical location of a location dependent device when the location dependent device is installed.

In response to the above arguments, the Examiner alleges that the specification does not indicate specific features of the contacts that make them capable of providing the signal indicative of the physical location of the location dependent device. Applicants respectfully disagree and note that the specification describes several embodiments of interconnects that are capable of providing a signal indicative of a physical location of a location dependent device when the location dependent device is installed. See, *e.g.*, Figures 3A, 3B, and 3C, and related discussion in the specification. Furthermore, Applicants respectfully submit that whether or not the specification indicates specific features of the contacts that make them capable of providing the signal indicative of the physical location of the location dependent device is immaterial to determining whether or not claim 13 is obvious over Flick in view of Chen.

The Examiner also notes that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Applicants respectfully submit that this principle is not applicable in the present case because the prior art apparatus does not satisfy the structural limitations set forth in claim 1. In particular, as discussed above, the detecting signal described by Chen is not a signal indicative of a physical location of the location dependent device when the location dependent device is installed.

Thus, Applicants respectfully submit that Flick and Chen fail to teach all the limitations of independent claim 13. For at least this reason, Applicants submit that the Examiner has failed to make a *prima facie* case that the present invention is obvious over Flick in view of Chen and request that the Examiner's rejections of claim 13 under 35 U.S.C. 103(a) be REVERSED.

VIII. CLAIMS APPENDIX

The claims that are the subject of the present appeal – claims 1-21 – are set forth in the attached “Claims Appendix.”

IX. EVIDENCE APPENDIX

There is no separate Evidence Appendix for this appeal.

X. RELATED PROCEEDINGS APPENDIX

There is no Related Proceedings Appendix for this appeal.

XI. CONCLUSION

In view of the foregoing, it is respectfully submitted that the Examiner erred in not allowing all claims pending in the present application, claims 1-21, over the prior art of record. The undersigned may be contacted at (713) 934-4052 with respect to any questions, comments or suggestions relating to this appeal.

Respectfully submitted,

Date: 10.14.05



Mark W. Sincell, Ph.D.
Reg. No. 52,226
WILLIAMS, MORGAN & AMERSON
10333 Richmond, Suite 1100
Houston, Texas 77042
(713) 934-7000
(713) 934-7011 (facsimile)

AGENT FOR APPLICANTS

Serial No. 10/131,699
Appeal Brief



CLAIMS APPENDIX

1. An interconnect for a location dependent device, comprising:
 - at least one bus adapted to provide at least one bus signal to the location dependent device; and
 - a plurality of electrical contacts external to the location dependent device and capable of providing a signal indicative of a physical location of the location dependent device when the location dependent device is installed.
2. The interconnect of claim 1, wherein the plurality of electrical contacts includes:
 - a first electrical contact capable of providing a reference; and
 - at least one second electrical contact electrically coupled to the first electrical contact, the second electrical contact being adapted to contact a corresponding electrical contact on the location dependent device when the location dependent device is installed.
3. The interconnect of claim 2, wherein the at least one second electrical contact is at least one of a socket and a solderable electrical contact.
4. The interconnect of claim 2, wherein the first electrical contact is adapted to contact a corresponding electrical contact on the location dependent device when the location dependent device is installed.
5. The interconnect of claim 4, wherein the first electrical contact is at least one of a socket and a solderable electrical contact.

6. The interconnect of claim 1, wherein the electrical contact includes:
 - a first electrical contact capable of providing a reference; and
 - at least one second electrical contact optionally electrically coupled to the first electrical contact, the at least one second electrical contact being adapted to contact a corresponding electrical contact on the location dependent device when the location dependent device is installed.
7. The interconnect of claim 6, further comprising at least one fuse deployed intermediate the first electrical contact and the at least one second electrical contact such that the at least one second electrical contact is capable of being optionally electrically coupled to the first electrical contact.
8. The interconnect of claim 1, further comprising at least one circuit element deployed intermediate the first electrical contact and the at least one second electrical contact.
9. The interconnect of claim 8, wherein the at least one circuit element comprises at least one of a resistor, a capacitor, a voltage reference circuit, and a trace having a selected resistance.
10. The interconnect of claim 9, wherein at least one of a trace length and a trace cross-section are selected to provide the selected trace resistance.

11. The interconnect of claim 1, wherein the at least one bus comprises at least one trace adapted to provide at least one of a control signal, a command signal, and a power signal to the location dependent device.

12. The interconnect of claim 1, wherein the location dependent device is at least one of a motor, an initiator, and a sensor.

13. A system for determining a position of at least one location dependent device deployed on a vehicle, comprising:

at least one bus capable of transmitting at least one bus signal;

a plurality of interconnects, each being capable of receiving the bus signal from the bus and providing the bus signals to at least one location dependent device associated with the interconnect; and

a plurality of electrical contacts, at least two of the plurality of electrical contacts being associated with each of the interconnects and being capable of providing a signal indicative of a physical location of the interconnect to the location dependent device associated with the interconnect when the location dependent device is installed.

14. The system of claim 13, wherein each of the electrical contacts associated with each of the plurality of interconnects includes:

a first electrical contact capable of providing a reference; and

at least one second electrical contact electrically coupled to the first electrical contact, the second electrical contact being adapted to contact a corresponding electrical contact on the location dependent device when the location dependent device is installed.

15. The system of claim 14, further comprising at least one circuit element deployed intermediate the first electrical contact and the at least one second electrical contact.

16. The system of claim 15, wherein the at least one circuit element comprises at least one of a resistor, a capacitor, a voltage reference circuit, and a trace having at least one of a selected length and a selected cross section.

17. The system of claim 13, wherein each of the electrical contacts associated with each of the plurality of interconnects includes:

a first electrical contact capable of providing a reference; and

at least one second electrical contact optionally electrically coupled to the first electrical contact, the second electrical contact being adapted to contact a corresponding electrical contact on the location dependent device when the location dependent device is installed.

18. The system of claim 13, wherein the at least one bus comprises at least one trace adapted to provide at least one of a control signal, a command signal, and a power signal to the at least one location dependent device.

19. The system of claim 13, further comprising a controller communicatively coupled to the bus and capable of providing the bus signal comprising at least one of a control signal, a command signal, and a power signal to the bus.

20. The system of claim 13, wherein the location dependent device is at least one of a location dependent sensor, a location dependent initiator, and a location dependent motor.

21. The system of claim 13, wherein the vehicle is at least one of an automobile and an airborne vehicle.